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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/033,366	12/27/2001	Noel John De Souza	U 013784-9	7802

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EXAMINER
FLOOD, MICHELE C

ART UNIT	PAPER NUMBER
1654	

DATE MAILED: 03/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.	Applicant(s)
10/033,366	De Souza et al.
Examiner	**Art Unit**
Michele Flood	1654

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *Jan 22, 2003*.

2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1, 2, 5, 6, 8, 9, 11, 12, 14, 15, 17, 18, 20, 21, 23, 24, and 26-31* is/are pending in the application.

4a) Of the above, claim(s) *1, 2, 5, 6, 8, 9, 11, 12, 14, 15, 17, 18, 20, 21, 23* 24 and 26-29 is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *30 and 31* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☑ The drawing(s) filed on 12/27/2001 is/are a) ☑ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All b) ☐ Some* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☒ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). *4 and 5*
4) ☐ Interview Summary (PTO-413) Paper No(s). _____
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Acknowledgment is made of the receipt and entry of the amendments filed on January 22, 2003. Acknowledgment is made of Applicant's cancellation of Claims 3, 4, 7, 10, 13, 16, 19, 22 and 25.

Claims 1, 2, 5, 6, 8, 9, 11, 12, 14, 15, 17, 18, 20, 21, 23, 24 and 26-31 are pending.

Election/Restriction

Applicant's election with traverse of Group V, Claims 30-31, in Paper No. 7 is acknowledged. The traversal is on the grounds that Groups I, II, III, and V should be examined together because "If the claims of Group V are novel and nonobvious then the use of the novel and nonobvious extract to treat health conditions is novel and nonobvious and all of the claims for treatment of the health conditions should be examined together." This is not found persuasive because the method of treatments of the inventions of Groups I-III are directed to independent and distinct inventions, each one different from the other, as set forth in the previous Office action. For instance, the invention of Group I differs from the inventions of Groups II and III because the invention of Group I is directed to a method of treatment of a health condition comprising administering a standardized extract of *Tinospora cordifolia*, whereas the invention of Group II is directed to a method of treatment of a health condition comprising administering a standardized extract of *Tinospora cordifolia* in conjunction with another treatment for the health condition, and whereas the invention of Group III is directed to a method of treatment of a health

condition associated with alteration or modulation of immunity comprising administering a standardized extract of *Tinospora cordifolia*, wherein the extract is standardized on the basis of defined immunomodulatory activity. Thus, the instantly claimed extract has been found useful in three different methods of treatments. The three methods of treatments comprise the administration of ingredients which are not necessarily the same, and the administration of ingredients either alone or in conjunction with other materially different treatments and/or therapy for the same health condition. The administration of different ingredients are expected not to have the same functional effect. With regard to the inventions of Groups III and V, the product as claimed has been found useful in the treatment of various health conditions not related to modulation or alteration of immunity *per se*, as evidenced by the claims themselves. Moreover, the process for using the product as claimed can be practiced with another materially different product. For instance, in US 5,077,284, Loria et al. teach administering dehydroepiandrosterone to improve immune response.

The several inventions above are independent and distinct, each one from the other. They have acquired a separate status in the art as a separate subject for inventive effect and require independent searches. The search for each of the above inventions is not co-extensive particularly with regard to the literature search. Further a reference which would anticipate the invention of one group would not necessarily anticipate or even make obvious another group. Finally, the consideration for patentability is different in each case. Thus, it would be an undue burden to examine all of the above inventions in one application.

The requirement is still deemed proper and is therefore made **FINAL**.

Claims 30 and 31 are under examination.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 30-31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With regard to Claim 30, line 1, there is an apparent misspelling. Applicant may overcome the rejection by replacing "*Tinosporia cordifolia*" with *Tinospora cordifolia*.

Claim 30 recites the limitation "the process" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim 30 recites the limitation "the pulverized above ground parts" in line 2. There is insufficient antecedent basis for this limitation in the claim.

With regard to Claim 30, line 7, there is an apparent misspelling. Applicant may overcome the rejection by replacing "preset" with present.

Claim 30 recites the limitation "the two identified peak areas" in lines 8 and 11. There is insufficient antecedent basis for this limitation in the claim.

Claim 30 recites the limitation "the methanol soluble content of said extract" in line 12. There is insufficient antecedent basis for this limitation in the claim.

Claim 31 depends directly or indirectly from rejected claim 30 and is, therefore, also, rejected under U.S.C. 112, second paragraph for the reasons set forth above.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless -
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 30 and 31 are rejected under 35 U.S.C. 102(b) as anticipated by Thatte et al. (A) or, in the alternative, under 35 U.S.C. 103(a) as obvious over Thatte et al. (U), as evidenced by Hoffmann (V) and Kruger et al. (AF, WO 91/08750).

Applicant claims an extract of *Tinospora cordifolia* prepared by a process comprising treating pulverized above ground parts of the plant *Tinospora cordifolia* with water at an elevated temperature, filtering and concentrating to provide an extract that has immunomodulatory activity as measured by its potential to increase phagocytosis by polymorphonuclear leukocyte by a value not less than 20% over a base value, and has one constituent which has a mass spectrometric M+ value of m/z 480 mass units and is present to an extent of not less than 35% of two identified peak areas of a liquid chromatography mass spectrometry single ion recording (LC-MS SIR) chromatogram, and has a second constituent which has a mass spectrometric M+ value of m/z 341 mass units and is present to an extent of not more than 65% of the two identified peak areas of the LC-MS SIR chromatogram of a methanol soluble content of said extract. Applicant further claims a composition comprising the extract of claim 30.

Thatte teaches a composition comprising an extract of *Tinospora cordifolia* having immunomodulatory activity and phagocytic activity. On page 13, Column 2, lines 13-16, Thatte teaches preparing the extract of *Tinospora cordifolia* as follows: "The dried, powdered stem was made into a decoction after boiling in water . . .". Thatte further teaches administering the extract to mice after injection of *Escherichia coli* to assess percent phagocytosis, i.e., the number of neutrophils (polymorphonuclear leukocytes) that had ingested *E. coli*. See page 14, Column 1, under "*Experiment 4: Neutrophil function*". On page 14, Column 2, lines 28-38, Thatte teaches, "Neutrophils from untreated control mice demonstrated a 34.33 +/ -3.44% phagocytosis of *E. coli*. As compared to this, phagocytic function of neutrophils of the *Tinospora cordifolia* treated

group was 53.66 +/- 5.68% ($p < 0.001$), stimulated, as compared to control and that in the gentamicin treated group 19 +/ -2.75 ($p < 0.001$), depressed, as compared to control). The intracellular bactericidal capacity of neutrophils from the *Tinospora cordifolia* treated group was 52.41 +/- 5.47% as compared to a control of 30.45 +/ - 3.19% as compared to a control of 30.45 +/- 6.19% ($p < 0.001$)." On page 15, Column 1, lines 16-21, Thatte further teaches that the prior art has shown that *Tinospora cordifolia* produces leucocytosis with predominant neutrophilia and stimulates macrophage function without significant toxicity.

The claims are drawn to an extract of *Tinospora cordifolia* and a composition thereof, prepared by a process comprising treating the pulverized above ground parts of the claim-designated plant with water at an elevated temperature, filtering and concentrating to provide an extract that has immunomodulatory activity as measured by its potential to increase phagocytosis by polymorphonuclear leukocyte by a value of not less than 20% over a base value, and has one constituent having a defined mass spectrometric value and is present to an extent of not less than 35% of two identified peak areas of a liquid chromatography mass spectrometry single ion recording (LC-MS SIR) chromatogram, and has a second constituent having a defined mass spectrometric value and is present to an extent of not more than 65% of the two identified peak areas of the LC-MS SIR chromatogram of a methanol soluble content of said extract.

Thatte teaches an aqueous extract from the stems of *Tinospora cordifolia* and a composition thereof, wherein the extract was prepared comprising boiling dried, powdered stems into a decoction after boiling in water. Although Thatte does not expressly teach pulverizing the

stems before boiling, and filtering and concentrating the plant material to provide an extract, it is generally assumed in the art that the preparation of a plant extract includes the instantly claimed process steps. For example, on page 23, Hoffmann teaches a method of making a plant decoction comprising the instantly claimed process steps of breaking up the plant material to make a powder (pulverizing), boiling, filtering, and concentrating the plant material to provide a plant extract. See insert 'To Make A Decoction' and 'Decoction'. Moreover, on page 4 in "Example 1", Kruger teaches a method of processing the above ground parts of *Tinospora cordifolia*: "The stalk of well-washed plant Tinospora cordifolia are cleaned, peeled and cut into smaller pieces. These pieces are finally crushed. 4 weight parts of water is added to 1 weight part of the so obtained mass and it is mixed into an uniform, pulp-type mass from which the fibrous substances are removed. The residue is made free from excess water by decantation or evaporation, dried and made into a powder." The cited reference discloses an extract of *Tinospora cordifolia* prepared by the process steps of boiling the dried, powdered stems of the claim-designated plant into a decoction, ---- which appears to be identical to the presently claimed product-by-process, since it exhibits immunomodulatory activity as measured by its potential to increase phagocytosis by polymorphonuclear leukocyte by a value not less than 20% over a base value; and, therefore, it is considered to anticipate the claimed extract of *Tinospora cordifolia*. Moreover, the cited reference discloses an extract of *Tinospora cordifolia* ---- which appears to be identical to the presently claimed extract of *Tinospora cordifolia*, since the ingredients, the source of the ingredients, the experimental parameters of making the claim-designated plant extract, the process

steps, and the beneficial functional effect are one and the same or essentially the same, as claimed; hence, it is considered to anticipate the claimed product-by-process. Thus, absent evidence to the contrary, it would appear that the process steps of filtering and concentrating the boiled decoction of stems taught by Thatte would inherently encompass the method of making the referenced plant extract, since the instantly claimed process steps are generally performed in the making of plant extracts. Thus, with regard to the claimed limitations that the claimed product-by-process has one constituent having a defined mass spectrometric value and is present to an extent of not less than 35% of two identified peak areas of a liquid chromatography mass spectrometry single ion recording (LC-MS SIR) chromatogram, and has a second constituent having a defined mass spectrometric value and is present to an extent of not more than 65% of the two identified peak areas of the LC-MS SIR chromatogram of a methanol soluble content of said extract, absent evidence to the contrary, it would appear that the claimed two constituents having the specified properties would be inherent to the *Tinospora cordifolia* extract taught by Thatte, since the method of making the referenced composition is one and the same, or essentially the same, as claimed by Applicant.

In the alternative, even if the claimed extract is not identical to the referenced extract with regard to some unidentified characteristics, the differences between that which is disclosed and that which is claimed are considered to be so slight that the referenced extract preparation is likely to inherently possess the same characteristics of the claimed extract preparation particularly in view of the similar characteristics which they have been shown to share. For instance, even if the

claimed method of preparing an extract of *Tinospora cordifolia* that has immunomodulatory activity as measured by its potential to increase phagocytosis by polymorphonuclear leukocyte by a value of not less than 20% over a base value, and has one constituent having a defined mass spectrometric value and is present to an extent of not less than 35% of two identified peak areas of a liquid chromatography mass spectrometry single ion recording (LC-MS SIR) chromatogram, and has a second constituent having a defined mass spectrometric value and is present to an extent of not more than 65% of the two identified peak areas of the LC-MS SIR chromatogram of a methanol soluble content of said extract is not identical to the referenced product-by-process with regard to the experimental parameter of the process steps of filtering and concentrating to provide a plant extract, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ the instantly claimed process steps because pulverizing, filtering and concentrating is simply a question of processing an aqueous medium comprising plant parts to result the effect of providing a plant extract. At the time the invention was made, one of ordinary skill in the art would have been motivated and one would have had a reasonable expectation of success to add the instantly claimed process steps of making the *Tinospora cordifolia* extract taught by Thatte to provide the claimed invention because the effective varying of the process steps of preparing the referenced plant extract would have been no more than a routine matter of optimization for one of ordinary skill in the art practicing the invention, given that Thatte teaches that his plant extract had immunomodulatory activity as measured by its potential to increase phagocytosis of neutrophils (polymorphonuclear leukocytes) by a value of not less than 20% over

a base value. Thus, it would have been merely a matter of judicious selection to one of ordinary skill in the art at the time the invention was made to use the instantly claimed process steps of filtering and concentrating the pulverized above ground parts of the plant *Tinospora cordifolia* because it would have been well in the purview of one of ordinary skill in the art practicing the invention to provide the claimed product-by-process, since Thatte teaches process steps of decoction comprising boiling powdered stems of *Tinospora cordifolia* to obtain a extract having immunomodulatory and phagocytic activities, Hoffmann teaches how to make a plant decoction, and Kruger teaches treating the above ground parts of *Tinospora cordifolia* inherently encompass pulverizing, filtering and concentrating the claim-designated plant material to provide an extract having therapeutic activity. The claimed invention is no more than the routine optimization of a result effect variable. Thus, the claimed extract would have been obvious to those of ordinary skill in the art within the meaning of USC 103.

The United States Patent and Trademark Office is not equipped to conduct experimentation in order to determine whether on not Applicant's claimed extract differs and, if so, to what extent, from that discussed in the references. Therefore, with the showing of the references, the burden of establishing non-obviousness by objective evidence is shifted to Applicant.

Accordingly, the claimed invention as a whole was at least *prima facie* obvious, if not anticipated by the reference, especially in the absence of sufficient, clear, and convincing evidence to the contrary.

Please note that "The patentability of a product does not depend upon its method of production. If the product in [a] product-by-process claim is the same as or obvious from a product of the prior art, [then] the claim is unpatentable even though the prior [art] product was made by a different process." *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985) (citations omitted). Once the examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing unobvious difference between the claimed product and the prior art product. *In re Marosi*, 218 USPQ 289, 292 (Fed. Cir. 1983).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michele Flood whose telephone number is (703) 308-9432. The examiner can normally be reached on Monday through Friday from 7:15 am to 3:45 pm. Any inquiry of a general nature or relating to the status of this application should be directed to the Group 1600 receptionist whose telephone number is (703) 308-0196 or the Supervisory Patent Examiner, Brenda Brumback whose telephone number is (703) 306-3220.

Michele C. Flood.

MCF

March 14, 2003